

Forestry Vehicle

During the Apollo program, NASA planned development of an unmanned, remotely-controlled vehicle to roam the lunar surface and report data over a long period. Conducted by Johnson Space Center, the research effort included work on a "load equalization system", a method of suspension that would allow the vehicle to negotiate craters and boulder fields or to climb very steep slopes; the suspension kept all four wheels on the ground whether the rover was pitching sharply up and down or rolling from side to side. The rover never became operational, but the technology has found application in the vehicle pictured. Called Power Pack II, it provides an economical means of moving a power source into remote, roadless forest areas.

Foresters need power to run equipment for logging, planting, pumping water, building trails and other operations. Getting the power to all-but-inaccessible areas is a problem. Helicopters or specially-designed "skidders" are expensive; human haulage is limited to relatively light, low-power equipment. Power Pack II fills a gap; it is an intermediate-sized unit which carries a power source and the powered tools to perform a variety of forest management tasks which cannot be done economically with current equipment.

The "self-propelled forestry power pack" was developed by Professor John Miles and his associates in the Agricultural Engineering Department of the University of California, Davis (UCD), working in cooperation with the California Department of Forestry. The UCD team combined its own design of an all-terrain vehicle with a suspension system based on the NASA load equalization technology. The result is a machine which can traverse very rough terrain and climb a 60 degree slope; any one of the wheels can move easily over an obstacle larger than the wheel's own diameter. The UCD group is now working on a more advanced Power Pack III.

